2017 PROMOTERS MANUAL

motogp.com
official website

DATA PROCESSING & TIMING MANUAL

T1. INTRODUCTION

The goal of this document is to be a tool used by the Circuit / Promoter in order to make easier the preparation and checking of all the facilities needed for the correct exploitation of the Timing and Data Processing Service and television signals distribution during the MotoGP™ Event.

The Dorna Timing & Data Processing staffs develop the major part of the work at the following three areas:

Timekeeping Room (TKR)
Data Process Control (DPC)
Timing points on the track.

The Dorna Timing & Data Processing staff will be responsible for the following services during the Event:

Timekeeping Equipments Installation
Timekeeping Results
Pit Lane Speed Control Equipment
Video Finish
Jump Start System
Dorna Race Control Systems
Dorna Television Signals Distribution

T2. DORNA TELEVISION SIGNAL DISTRIBUTION

SIGNALS TO DISTRIBUTE

In order to distribute properly our signal around the key areas of the Event, we will need the circuit to provide a frequency window (546.00MHz - 602.00MHz) from the Circuit Modulation Center. *(SEE SIGNAL LAYOUT) PAGE 36*

In case the circuit is still using the analogue system we are able to provide analogue signal. In this case, please contact the Operations Department 3 months prior to the event.

Find below the specific frequencies:

VIDEO HIGH DEFINITION SIGNAL: Channels 31 to 38, being 31 and 38 back-up

32 Timekeeping information pages 1 and 2 (554.00MHz)

33 Timekeeping information pages 3 and 4 (562.00MHz)

34 MotoGP TV and MovistarTV (570.00MHz)

35 SKY TV and BT TV (578.00MHz)

36 Live Timing and Live Tracking (586.00MHz)

37 Info Quad 1 and Info Quad 2 (594.00MHz)

GIANT SCREEN SIGNAL

This signal contains the International Program Feed - MotoGP TV (only video) with TV graphics specially produced for this type of display, Giant Screen.
This signal will be provided from the Data Process Control, but it could also be sent from the TV Compound if required. It is highly recommended to provide this signal through fibre, and the ideal connection points should be in the DPC or closer distribution box, or fibre point in the TV Compound.

Because of the special TV graphics adapted to Giant Screen, this signal does not have to be distributed to other types of displays (Paddock, Pit Wall, Boxes, Media Center...).

AUDIO SIGNAL

The only audio signal provided by Dorna will contain the official commentaries in English and the ambient audio from all the Dorna race track television cameras.

The live interviews generated inside the Dorna interview set will be also broadcasted through this audio signal.

*This signal audio will have to be mixed and modulated with the IPF MotoGP TV. Timekeeping pages will be provided without audio.

*No other audio signal could be mixed with the Dorna International Program Feed - MotoGP TV.

TEST

Thursday morning of the Event a technical test of the RF installation will be carried out by Circuit technicians in cooperation with the Dorna technicians in order to guarantee that all tv monitors in the areas specified below receive all the signals properly.

*After the inspection, no modifications can be made in the Modulation Center installation without the previous approval from Dorna Operations Department.

AREAS TO COVER

The Circuit / Promoter has to modulate the Dorna Television signals and distribute them to the areas specified below:

Race Control
Pit Wall (also teams without boxes)
Permanent Pit Box Garages
Temporary Pit Box Garages
Media Centre
Main Paddock
Auxiliary Paddock
Medical Centre
Commentary Booths
TV Interview Set
Dorna Offices
MotoGP VIP Village™ Area.
Circuit Giant Screens
TV Compound
Podium Area
Timekeeping Room
Control Tower Room

All RF outlets with F connectors will be required with output levels of 70 / 80 db

In the case that the Circuit facilities distribution does not allow cover of all mentioned areas by the normal circuit distribution system, the Circuit / Promoter must inform the Dorna Operations Department at least two months in advance in order to find an alternative solution.

T3. TIMEKEEPING ROOM (TKR)

The Timekeeping Room is the centre where all timing information from the detection points located around the track is received.
The Dorna Timing & Data Processing crew must have access to the Timekeeping Room on Sunday prior the Event. The room must be fully at the disposal of the Dorna crew.

LOCATION

The Timekeeping Room must be a well windowed office, with Solar Protection film UV (to reduce solar radiation) or blinds, located in the Pit Boxes building and perfectly lined-up with the Finish Line. From its position a complete view of the main straight should be guaranteed.
Preferably this room will be located as close as possible to the Race Control Room and Data Processing Control Truck.
A temporary optical fibre cable installation will be prepared by Dorna Technicians in order to connect the TKR room with the DPC. Cables arriving to the TKR room must have a clear unobstructed run from the DPC and one cable access hole 20cm x20cm will be required. *(SEE TKR IDEAL PLAN) PAGE 15*

DIMENSIONS

The minimum dimensions of the Timekeeping Room must be 6 m x 10 m.

LIFT OR SIMILAR

The Dorna Timing & Data Processing team must install a set of boxes of 200cm x 80cm x 70cm weight approx. 150 kg each into the Timekeeping Room.
In the case that no lift is available to move these boxes, the Circuit / Promoter must provide a scissor lift or similar.
(SEE VEHICLES) PAGE 17

AIR CONDITIONING AND HEATING

The Timekeeping Room must be equipped with air conditioning system to keep a constant temperature between 21º-23ºC.

ELECTRIC POWER SPECIFICATIONS

Power supply for TKR must be protected by a UPS system.
Please find below the minimum requirements to prevent power failures when all the TKR technical equipment are connected:
Trip Switch - 10kW 220 V (RCD - residual current device) of 30A must be with sensitivity of 300mA (in case the national law does not permit the installation of 300mA trip switch, then a 30mA Immunized for industrial installations must be used).
Best to use: Merlin Guerin - 300 mA (or 30 mA Immunized), 63A, 240 V or similar.
(SEE TRIP SWITCH) PAGE 18

SOCKETS

All the sockets must be Schuko type. The Circuit / Promoter must inform the Dorna Operations Department at least two months in advance if it is not possible to install Schuko plugs in this area. *(SEE SCHUKO SOCKET) PAGE 19*

RF SIGNAL

A RF signal outlet with F connector will be required inside this room.

OFFICE FURNITURE

The Timekeeping Room must be equipped with 6 chairs on wheels and 4 office tables (minimum size 150cm x 80cm).

T4. DATA PROCESS CONTROL (DPC)

The Data Process Control is the place where all timing information is processed and where all results are generated and distributed.

DPC is a Dorna Truck that will be parked in the Paddock area as close as possible to the Timekeeping room.
(SEE DPC TRUCK IMAGE) PAGE 16

ELECTRIC POWER SPECIFICATION

The electric line that feeds the DPC truck must be connected to two Trip Switch of the following specifications and must be protected by UPS System.
Minimum specifications needed to prevent power failures when all technical equipment are connected:
Trip Switch - 20kW 380 V (RCD - residual current device) of 50 A must be with sensitivity of 300 mA (in the case the national law does not permit the installation of 300mA trip switch, then a 30mA Immunized for industrial installations must be used).
(SEE TRIP SWITCH) PAGE 18

SOCKETS

Three sockets type IEC 309 or IEC/N (European model CEEform 32 A, three phase + neutral + ground) have to be installed next to the DPC trucks. These sockets will exclusively be used by DORNA and must be available from Sunday prior the Event to Monday after the race without interruptions. *(SEE CEEform) PAGE 20*

TELEPHONE LINES AT THE DPC TRUCK

- *VOICE LINE*

The Circuit / Promoter have to install One (1) IDD line (analogue / standard line) with direct international calls.

- *DATA LINE*

The Circuit / Promoter have to provide a dedicated Internet connection for the exclusive use of DORNA of the following specifications:
ADSL line with 8Mbps download and 2Mb upload (100% guaranteed) capacity, Router with fixed IP allowing Dorna to make its own configuration.
In case that this Internet connection is not available the Circuit / Promoter must inform the Dorna Operations Department, at least three months before the Event, in order to find an alternative solution to provide the required line capacity.

The cost of the voice and data lines will be at the expense of the Circuit / Promoter.

*Both lines must be installed latest on Monday at 10am prior to the Event.

RF SIGNAL

*A RF signal outlet with F connector will be required just behind the DPC patch truck.
(SEE PATCH PANEL) PAGE 33

DPC TEMPORARY CABLING INSTALLATION

As the DPC is the main point of connection with the TV Compound, Dorna Technicians will have to install and subsequently remove a large number of cables for each race to interconnect the DPC, the Timekeeping room and race control rooms with TV Compound.

T5. TIMING POINTS AT THE TRACK

The Dorna Timing & Data Processing staff will install different timing detection points/loops around the track:

Finish Line (FL) + Pit Speed Finish Line (PSFL) + Pit Speed (PS)
Top Speed Point (TS)
Intermediate Point One (I1)
Intermediate Point Two (I2)
Intermediate Point Three (I3)
TV Graphics Loops (TP1, TP2, TP3, TP4).

Therefore, the race track will be split in four intermediate times if I3 is used.

Depending on the position of the Finish Line (FL) and its relative location to the Pit Lane, Pit Finish Line (PFL) could be used as Pit Entry and/or the Pit Exit.

E.g: If the Finish Line position is close to the Pit Lane entrance, Pit Finish Line will be used as Pit Entry.

Some other detection loops will be prepared for Telemetry purposes.

Dorna will inform the Circuit / Promoter of the total number of timing points used in each circuit.
(SEE IP INSTALATION) PAGE 26
In case the circuit is planning to resurface the circuit or any part of it affecting the timekeeping equipment on the track, Operations Department have to be advised at least 2 months before the event.

INSTALLATION OF TIMING POINTS

A detection loop crossing the width of the track including kerbs and part of the verge / run off area will be installed by the Dorna Timing & Data Processing staff at all timing points.

The Circuit / Promoter may be requested to help the Timekeeping staff to cut the track in order to install the Timekeeping antennas at the different timing points. For that purpose, the Circuit/ Promoter could be requested to provide a cutting machine with an operator *(SEE CUTTING MACHINE) PAGE 21*. The thickness of the cut disc must be 3.5mm and the cut depth must be 2cm. *(SEE LOOP SPECIFICATION) PAGE 22*

To clean the track after the cutting operation, the Circuit / Promoter should provide an air compressor and a track washing machine if necessary.

FINISH LINE REQUIREMENTS

Dorna Timing & Data Processing staff will set up a loop situated in the Finish Line to be used as the Official Finish Line for all Timekeeping purposes. This loop will be installed and renewed at the beginning of the Event independently of its current status. All existing detection loops which are in a distance of less than 5 meters from the Official Finish Line loop will have to be removed in order to avoid any noise or interference.

See the schema of the Finish Line / light beam line position. *(SEE SCHEMA FINISH LINE) PAGE 23*

Dorna Timing & Data Processing staff will make the antenna installation.

Due to safety regulations no component is allowed to be installed further than the guardrail or protection wall. Therefore, a hole at the wall or guardrail is needed in order to install the light beam at the Finish Line, this hole must be 30cm x 30cm. *(SEE HOLE AT THE WALL) PAGE 24*

PIT LANE SPEED CONTROL

Dorna technicians will install along the Pit Lane several detection loops in order to control the speed of the racing motorbikes. The Circuit may be requested to help in the asphalt cutting operation before the Event.
(SEE PIT LANE LOOPS PLAN EXAMPLE) PAGE 27

TV GRAPHIC LOOPS

These loops (TP) will have to be prepared in order to refresh faster the classification and motorbike position on the Race Track for TV graphic purposes.

The number of TP loops required will vary between 3 or 4 according to Race Track layout.

Dorna technicians will be responsible to install the loop at the racing surface and prepare the required wiring between the loop and the service road and subsequently from the Service Road to the TKR.

The Circuit/ Promoter will be requested to prepare the required thin trench where the cable loop will run safely from the Race Track until the service road.

OTHER TIMING POINTS REQUIREMENTS

This section is related to the Top Speed Point (TS), Intermediate Point 1 (I1), Intermediate Point 2 (I2) and Intermediate Point 3 (I3). At each of the mentioned timing points the Circuit / Promoter has to provide:

CONTAINER OR BOX

1m x 1m x 2m container or box will be required to install the Timekeeping equipment at each of the timing points. The container will be connected with the detection loop on the asphalt of the Race Track through a 3,5cm underground pipe.
(SEE INTERMEDIATE POINTS CABIN) PAGE 25

The container or box should be located in easy access position at the service road.

The Electrical power needed for the timing equipment inside the container is 220V switch. This does not include the power necessary for the air conditioning.

An air conditioning system must be installed inside the container in order to keep the temperature between 21-23 ºC. Separate power connection is needed for the air conditioning system.

DETECTION LOOP INSTALLATION

In order to connect the Detection Loop at the Race Track with the timing equipment inside the container/box in the service road, the Circuit / Promoter will have to prepare some underground pipes.

All Timekeeping Points the underground pipe will run directly from the Race Track to the Container in the service road.
(SEE LOOP SPECIFICATION) PAGE 22

T6. CABLING INSTALLATION

The Circuit/ Promoter will be requested to prepare all the cabling installation between the areas specified in this chapter.
The installation should be ready and checked the week before the Event.
It is very important to ensure that all cables and connectors are prepared as specified in this manual.
All connectors will be properly identified and grouped inside a connection panel in each of the areas specified below.
(SEE CABLING SCHEMA) PAGE 28

TIMEKEEPING ROOM

All the cabling arriving to the TKR should be grouped in two different patch panels:

TKR TIMING POINTS PATCH PANNEL

A patch panel where all cables from different timing points at the Race Track are arriving must be installed in the Timekeeping Room (TKR). These cables must be clearly identified with labels.
(SEE TIMING POINTS PATCH PANEL) PAGE 29

The telephone (copper) cable connectors should be "*banana*" connectors.
(SEE BANANA CONNECTOR) PAGE 29

*If the circuit is provided with optical fiber please contact Dorna for new specifications.

TKR INFO DISTRIBUTION PATCH PANNEL

A patch panel where all cables from Finish Line, Modulation Center and Data Processing Control Truck are arriving must be installed in the Timekeeping Room (TKR). These cables must be clearly identified with labels.
(SEE TKR INFO DISTRIBUTION PATCH PANEL) PAGE 32

TKR TO FINISH LINE

On the Pit Wall where the photocell hole is, a patch panel will be required with the following cabling and connectors

- Four (4) RG59 (75 Ohms) with BNC connectors: *(SEE BNC CONNECTORS) PAGE 30*

Finish Line Loop.
Pit Finish Line.
Back up 1.
Back up 2.

- Four (4) CAT-6 screened cables with connectors**:

Finish Line Camera.
Speed Control Loops.
Photocell.
Meteo

** Given the case the circuit installation is made of fiber, the configuration would be as below:
Photocell (CAT-6 screened cables with connector)
Finish Line Camera (fiber)
Speed Control Loops (fiber)
Meteo (fiber)

-One (1) CAT-6 opposite side to Finish Line screened cables with connectors*
*Optical fiber can be used for this connection in case the circuit has the proper installation (monomode with SC/APC connector).

Finish Line Camera opposite side

TKR TO TIMING POINTS

Following connections are needed from the Timekeeping Room (TKR) to all below specified timing points:

- Six (6) Copper cables* with a minimum of 8 twisted pairs (to make total of 16) wires, neither armed nor shielded, minimum diameter 0,63mm with banana connector:
*Optical fiber can be used for these connections in case the circuit has the proper installation (monomode with SC/APC connector).

Intermediate Point One (I1)
Intermediate Point Two (I2)
Intermediate Point Three (I3)
Top Speed Point (TS)
Pit Speed
Pit Finish Line

These connections should be made point to point with no junctions between the extremes.

- *TIMING POINT PATCH PANNEL INSIDE THE CONTAINER AT THE RACE TRACK*

A small patch panel must be installed at all Timing Points except of the Finish Line (FL) in order to connect the telephone (copper) cable, with 8 pairs coming from the Timekeeping Room, with banana connectors. These cables must be clearly identified with stickers. *(SEE TIMING POINTS PATCH PANEL) PAGE 29*

DATA PROCESSING CONTROL TRUCK

All the cabling arriving to the DPC should be grouped in a single patch panel.
This patch panel will be installed outside of the Race Control building as close as possible to the DPC Truck parking position and must contain all cable connections arriving from Timekeeping Room, Media Center, Dorna Offices and Race Control. The cables must be tested and identified with stickers. The patch panel should be installed inside a waterproof and lockable box with an aperture permitting the cables to be connected inside the box. *(SEE DPC PATCH PANEL) PAGE 33*

DPC TO TKR

The Circuit / Promoter must install the following cables in order to connect the DPC with the Timekeeping Room (TKR).

- Five (5) ETHERNET CAT6 cables* with RJ45 connectors. *(SEE COLOR RJ45) PAGE 31*
*Optical fiber can be used for these connections in case the circuit has the proper installation (monomode with SC/APC connector).

In the case that the cable is longer than 90 meters (295ft) the signal power decreases considerably. Therefore, the Circuit / Promoter should find an intermediate point in order to install a Hub (signal amplifier).
The Circuit / Promoter must provide a 220V electrical plug with Schuko outlet at this point under UPS system.

Dorna Network.
Dorna Network.
Track Point Connection 1
Track Point Connection 2
Back up

- In case the connection between DPC and TKR is made with optical fiber, only 2 ETHERNET CAT 6 cables with RJ45 connectors would be required (point to point no longer than 120 meters). *(SEE COLOR RJ45) PAGE 31*

Dorna Intercom
Dorna Intercom back-up

- Seven (7) RG 59 (75 Ohm) with BNC HD/SDI connectors* for the video signals distribution:
*Optical fiber can be used for these connections in case the circuit has the proper installation (monomode with SC/APC connector).

Timekeeping page 1
Timekeeping page 2

Timekeeping page 3
Timekeeping page 4
IPF MotoGP TV
Back-up 1
Back-up 2

- Three (3) audio cables* with XLR-PIN connectors for the audio signals distribution (Pin 1 Shield, Pin 2 Signal +, Pin 3 Signal): *(SEE XLR-PIN CONNECTORS) PAGE 30*
*Optical fiber can be used for these connections in case the circuit has the proper installation (8 wires monomode with SC/APC connector).

IPF audio signal.
Media Information1.
Back Up.

DPC TO DORNA OFFICES

The Circuit / Promoter has to provide and install three Ethernet cables between the DPC Truck and the Dorna Offices located in the Paddock. This connection is used for Dorna network.

Three (3) CAT6 screened cables* shielded (total 8 wires) with RJ 45. *(SEE COLOR RJ45) PAGE 31*
*Optical fiber can be used for these connections in case the circuit has the proper installation (8 wires monomode with SC/APC connector).

In the case that the cable is longer than 90 meters (295ft) the signal power decreases considerably. Therefore, the Circuit / Promoter should find an intermediate point in order to install a Hub/Switch (signal amplifier).
The Circuit / Promoter must provide a 220V electrical plug with Schuko outlet at this point.

DPC TO MEDIA CENTER

The Circuit / Promoter has to provide and install two Ethernet cables between the DPC and the Dorna MotoGP™ Media Office located in the Media Centre. This connection is used for direct results distribution in the Media Centre.

- Two (2) CAT6 screened cables* shielded (total 8 wires) with RJ 45 connectors. *(SEE COLOR RJ45) PAGE 31*
*Optical fiber can be used for these connections in case the circuit has the proper installation (8 wires monomode with SC/APC connector).

In the case that the cable is longer than 90 meters (295ft) the signal power decreases considerably. Therefore, the Circuit / Promoter should find an intermediate point in order to install a Hub/Switch (signal amplifier), this Hub/Switch should be only for Dorna use. The Circuit / Promoter must provide a 220V electrical plug with Schuko outlet at this point.

RACE CONTROL

All the cabling arriving to the Race Control Room should be grouped in a single patch panel.
This patch panel will be installed under the first row of working tables inside the the Race Control Room and must contain all cable connections arriving from Data Processing Control Truck and Jump Start Recording system at the Starting Grid.
(SEE RACE CONTROL PATCH PANEL) PAGE 34

RACE CONTROL TO DPC

The Circuit / Promoter has to provide and install the following cables:

- Three (3) CAT6 screened cables shielded (total 8 wires) with RJ 45 connector. In the case that the cable is longer than 90 meters (295ft) the signal power decreases considerably. Therefore, the Circuit / Promoter should find an intermediate point in order to install a Hub/Switch (signal amplifier).
The Circuit / Promoter must provide a 220V electrical plug with Schuko outlet at this point under UPS system.

Dorna Network 1
Intercom
Back up (Optical fiber can be used for this connection in case the circuit has the proper installation (8 wires monomode with SC/APC connector)

- One (1) RG 11 with F connector: HD Dorna Race Track System

RACE CONTROL TO JUMP START RECORDING SYSTEM

A system developed by Dorna will be used to check Jump Start. The Jump Start cameras will be provided and installed by Dorna. The Circuit / Promoter will have to provide one pole for each row of the starting grid in order to fix the cameras. The control system of the Jump Start cameras will be installed by Dorna in the Race Control room. *(SEE JUMP START) PAGE 35*

- *POLES FOR THE JUMP START CAMERAS:*

14 poles are required to cover all rows of the Starting Grid; these poles should be in place on Monday prior the Event. Each pole must be installed exactly in the middle of each row of the Starting Grid. The minimum height for the Jump Start poles is 2,5 meters.

- *CABLES:*

Two (2) CAT6 Ethernet cables with RJ45 connectors in the same position, in pole 1 or 12 from the starting grid.

- *POWER SUPPLY:*

An electrical multipoint socket 220 V/16 Amp Shuko adapter under UPS system is required in pole 1 or 12.

RACE CONTROL TO MotoGP PIT BOXES

- *FIBER NETWORK:*

One (1) CAT6/CAT5 Ethernet cables with RJ45 connectors in each MotoGP garage (usually between 11-12 points) to set-up the Virtual Pit Board Notification System, connecting Race Control directly with the MotoGP teams. *(SEE VIRTUAL PITBOARD SYSTEM PAGE 37*

MODULATION CENTER

The Circuit / Promoter has to provide the following connections between the Timekeeping Room and the Circuit Modulation Center in order to distribute the video and audio Dorna Television Signals around the Circuit Facilities:

MODULATION CENTER to TKR

**The connections listed above will only be needed in case the circuit/promoter is working with analogue system.*

- Seven (7) RG-59 with BNC HD/SDI connectors: *(SEE BNC CONNECTORS) PAGE 30*

Timekeeping page 1
Timekeeping page 2
Timekeeping page 3
Timekeeping page 4
IPF MotoGP TV
Back-up 1
Back-up 2

- Three (3) audio cables with XLR-PIN connectors for the audio signals distribution (Pin 1 Shield, Pin 2 Signal +, Pin 3 Signal):

IPF audio signal.
Media Information1.
Back Up.

MODULATION CENTER to DPC

* For the IPF **HD** signal, The Circuit/Promoter will have to provide the following cabling between the Data Processing Control Truck and the Circuit Modulation Centre:

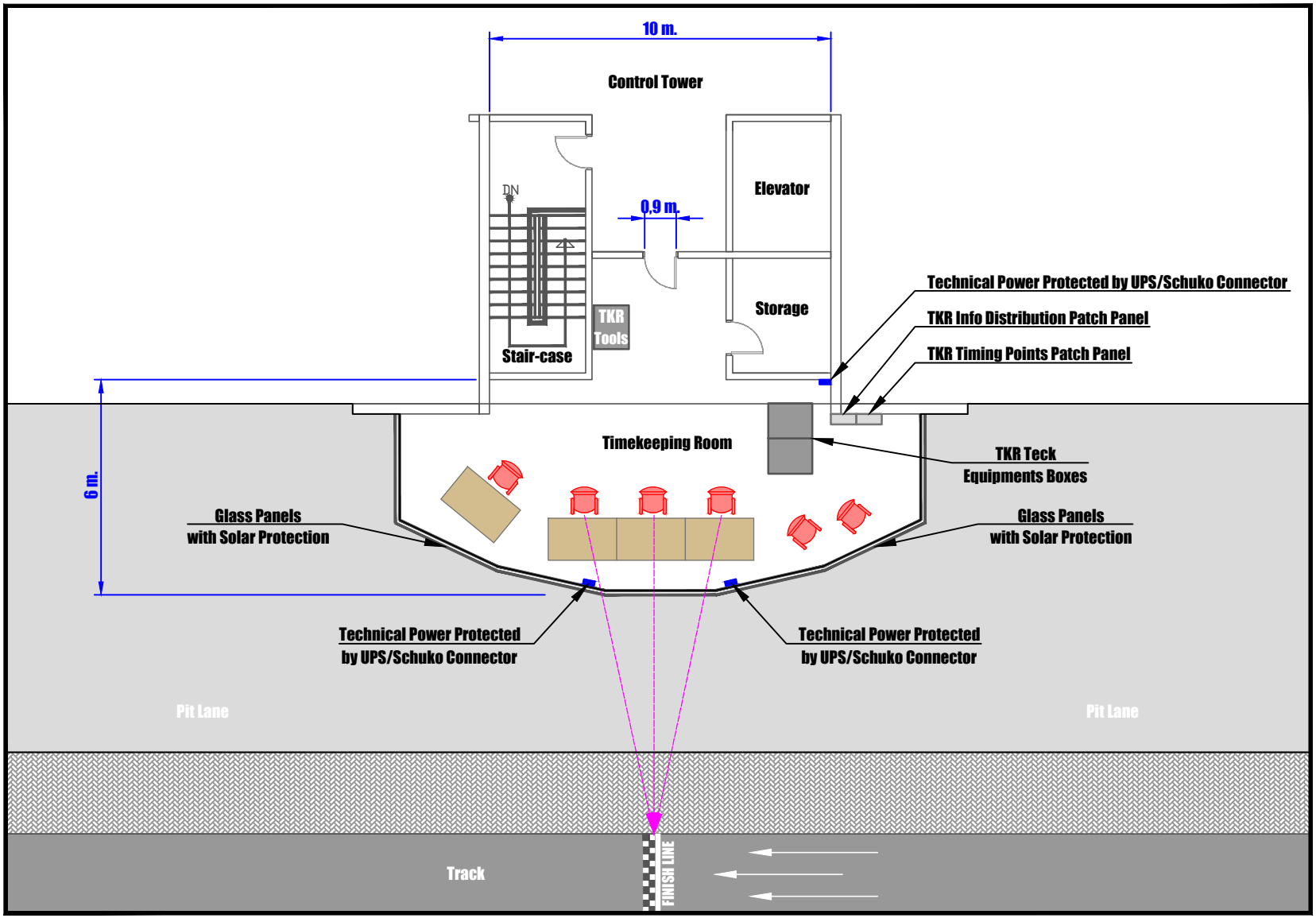
- Two (2) video cable RG 11 with F connector.

TDT Modulation MotoGP.
TDT Modulation MotoGP Back Up.

- One (1) VK6 – optical fiber

Giant Screen signal

T7. ANEXES


10 m.
Control Tower
DN
0,9 m.
Elevator
Storage
Stair-case
TKR Tools
Technical Power Protected by UPS/Schuko Connector
TKR Info Distribution Patch Panel
TKR Timing Points Patch Panel
6 m.
Timekeeping Room
TKR Teck Equipments Boxes
Glass Panels with Solar Protection
Glass Panels with Solar Protection
Technical Power Protected by UPS/Schuko Connector
Technical Power Protected by UPS/Schuko Connector
Pit Lane
Pit Lane
Track
FINISH LINE

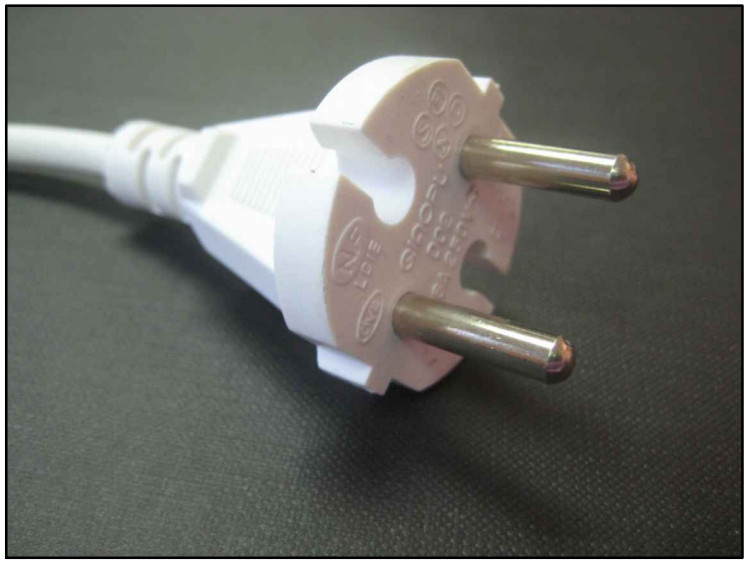

MANISCOPIC
MANITOU

BIPOLAR TRIP SWITCH

GENERAL BOX

TETRAPOLAR TRIP SWITCH


115V
240V
North America
Grounded
NEMA 5-15
Japan
Non-grounded
JIS C 8303
Europe
German style
CEE7/4 Schuko
Europe
French style
Schuko
Europe/Russia
Non-grounded
CEE7/16 Europlug
Great Britain
Grounded
BS-1363
Great Britain
"Shaver socket"
BS-4573
Australia/China
Grounded
AS-3112
Italy
Grounded
CEI 23-16
Switzerland
Grounded
SEV-1011
Denmark
Grounded
SRAF 1962/DB
Israel
Grounded
SI 32 (IS 16A-R)
India
Grounded
BS-546 "Small"
South Africa
Grounded
BS-546 "Large"



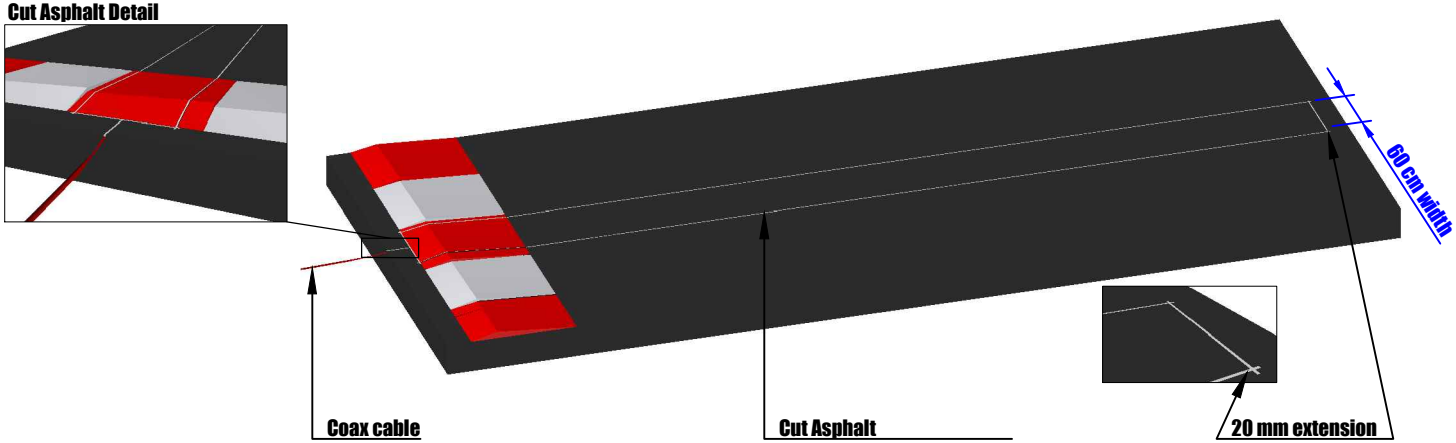
CETAC CEEform 32Amp 5PINS
3 PHASES + NEUTRAL + GROUND

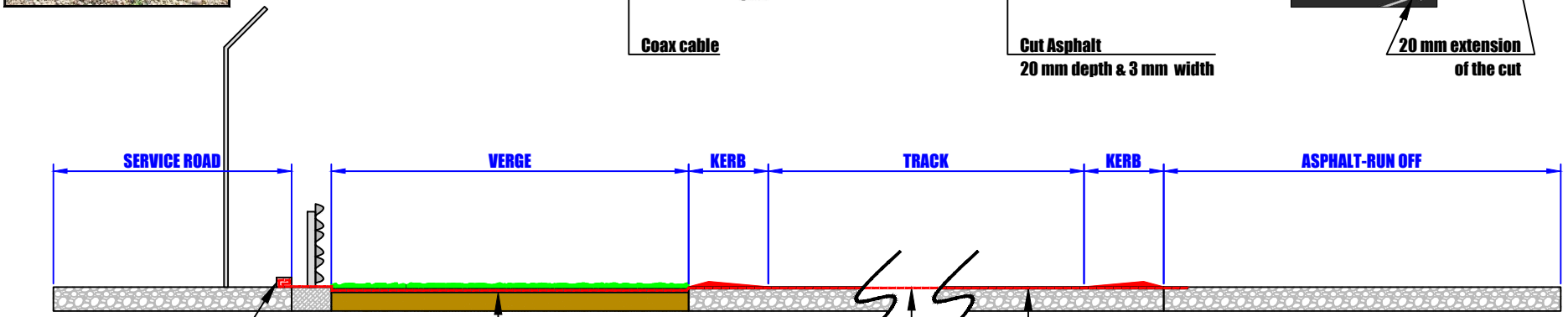
CETAC CEEform 16Amp 3PINS
1 PHASE + NEUTRAL + GROUND

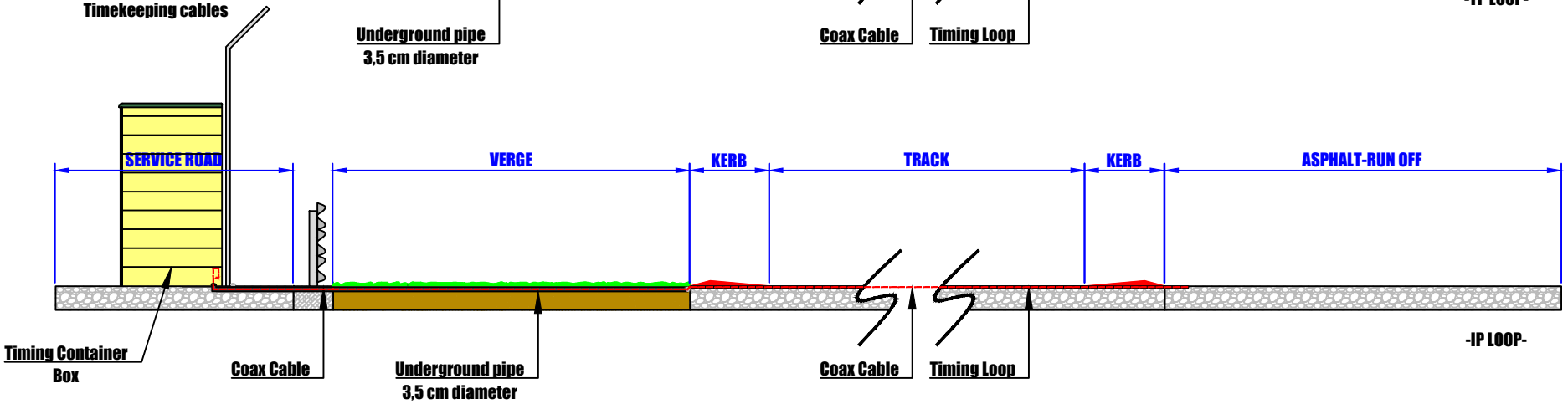

THIS SIDE UP
HONDA
GX390
CUTTING MACHINE

Underground Pipe

Cut Asphalt Detail



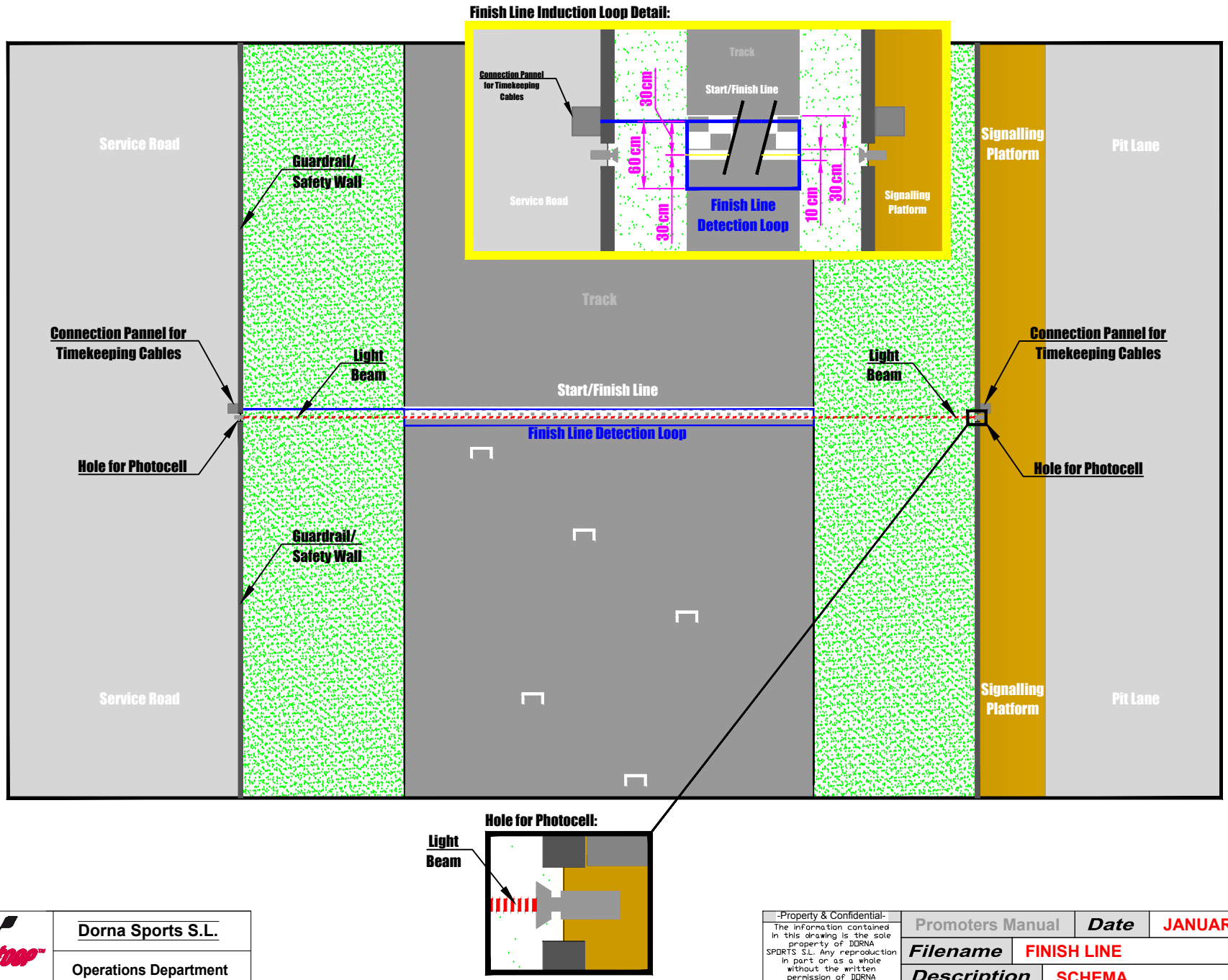




Dorna Sports S.L.

Operations Department

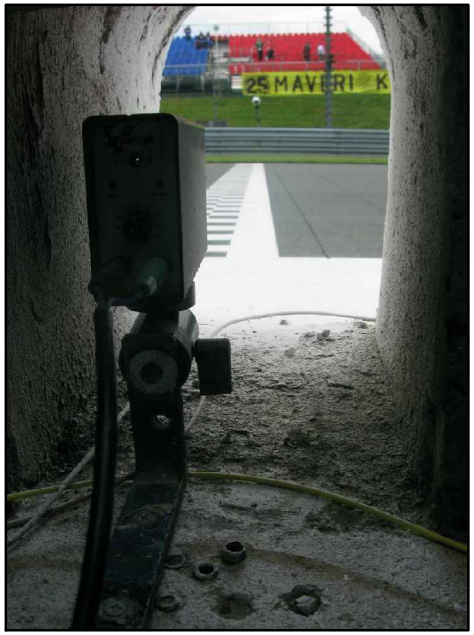
Promoters Manual	Date	JANUARY 2014
Filename	DETECTION LOOP INSTALLATION	
Description	IP SPECIFICATION	

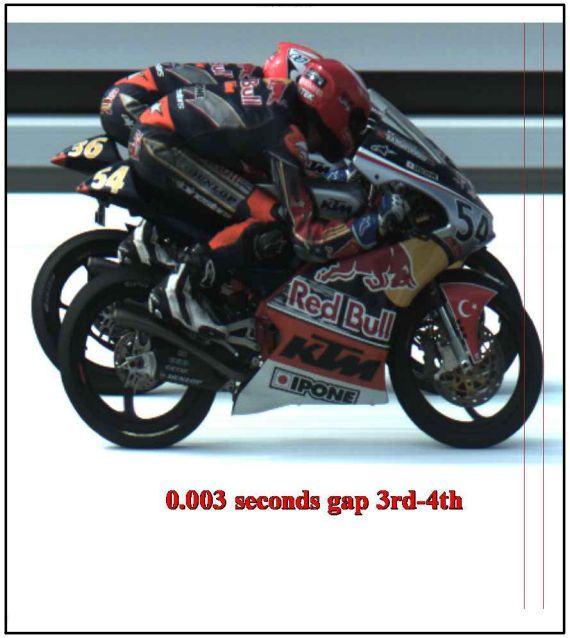


Dorna Sports S.L.

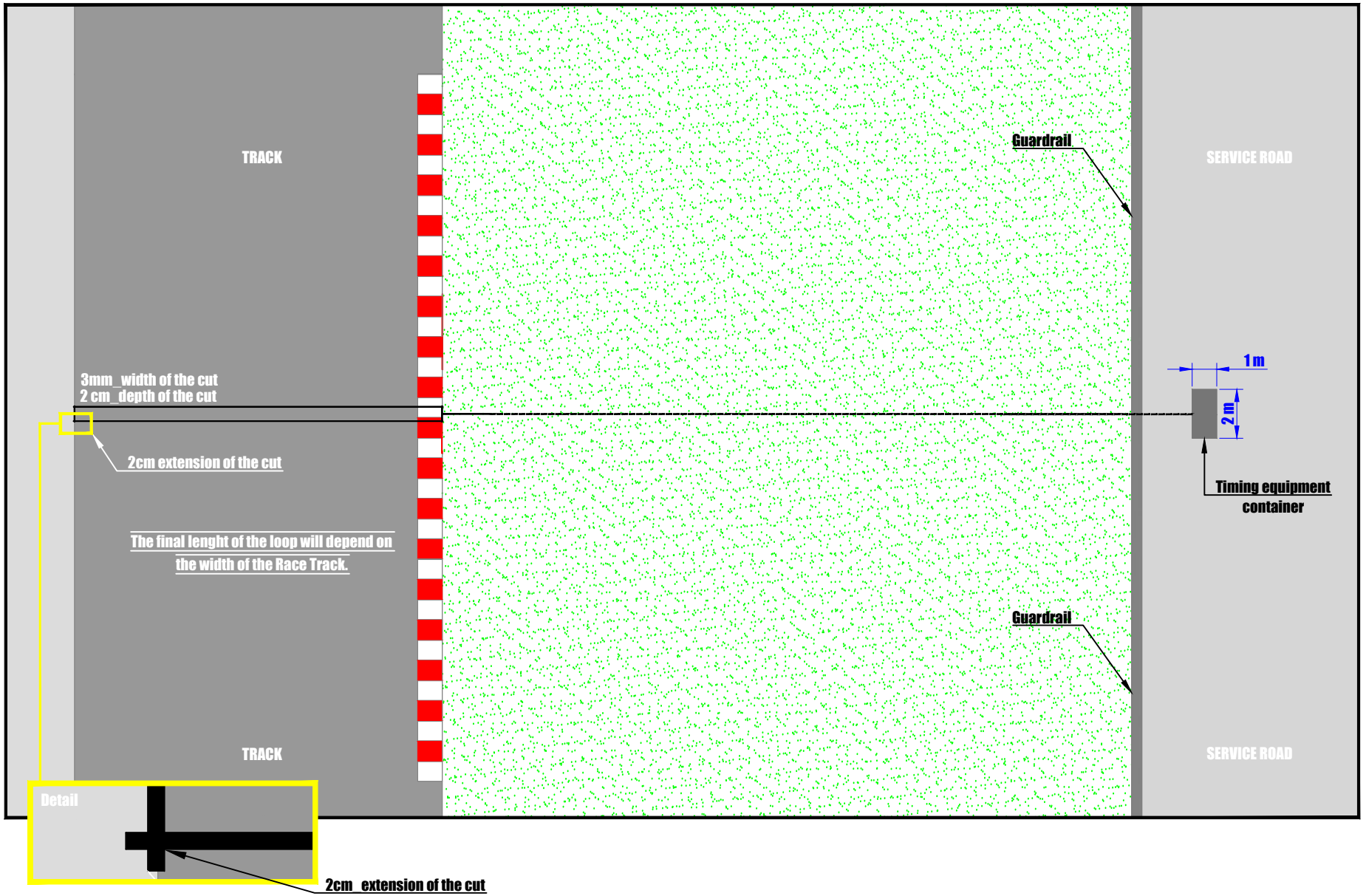
Operations Department

Promoters Manual	Date	JANUARY 2015	
Filename	FINISH LINE		
Description	SCHEMA		





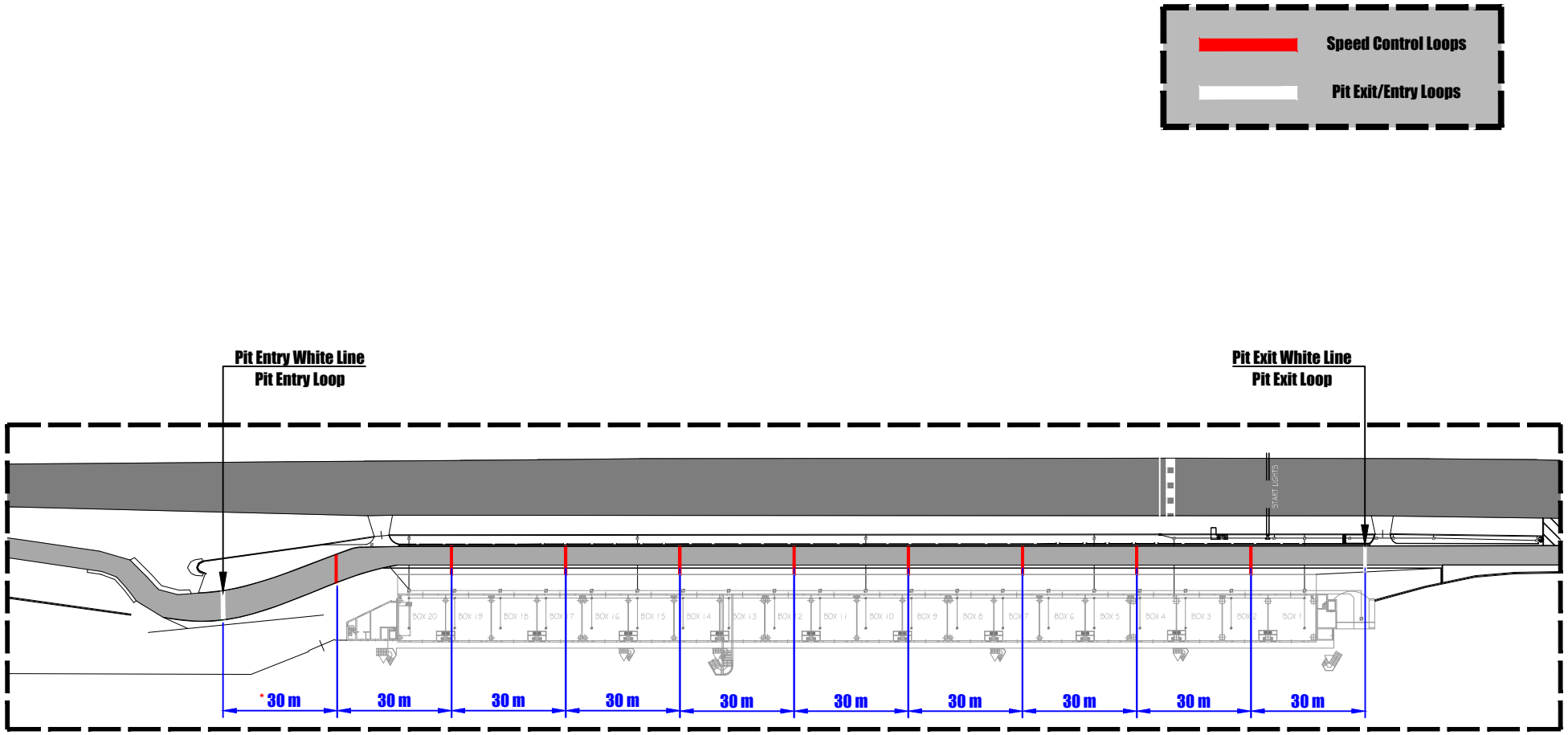
0.003 seconds gap 3rd-4th



Dorna Sports S.L.

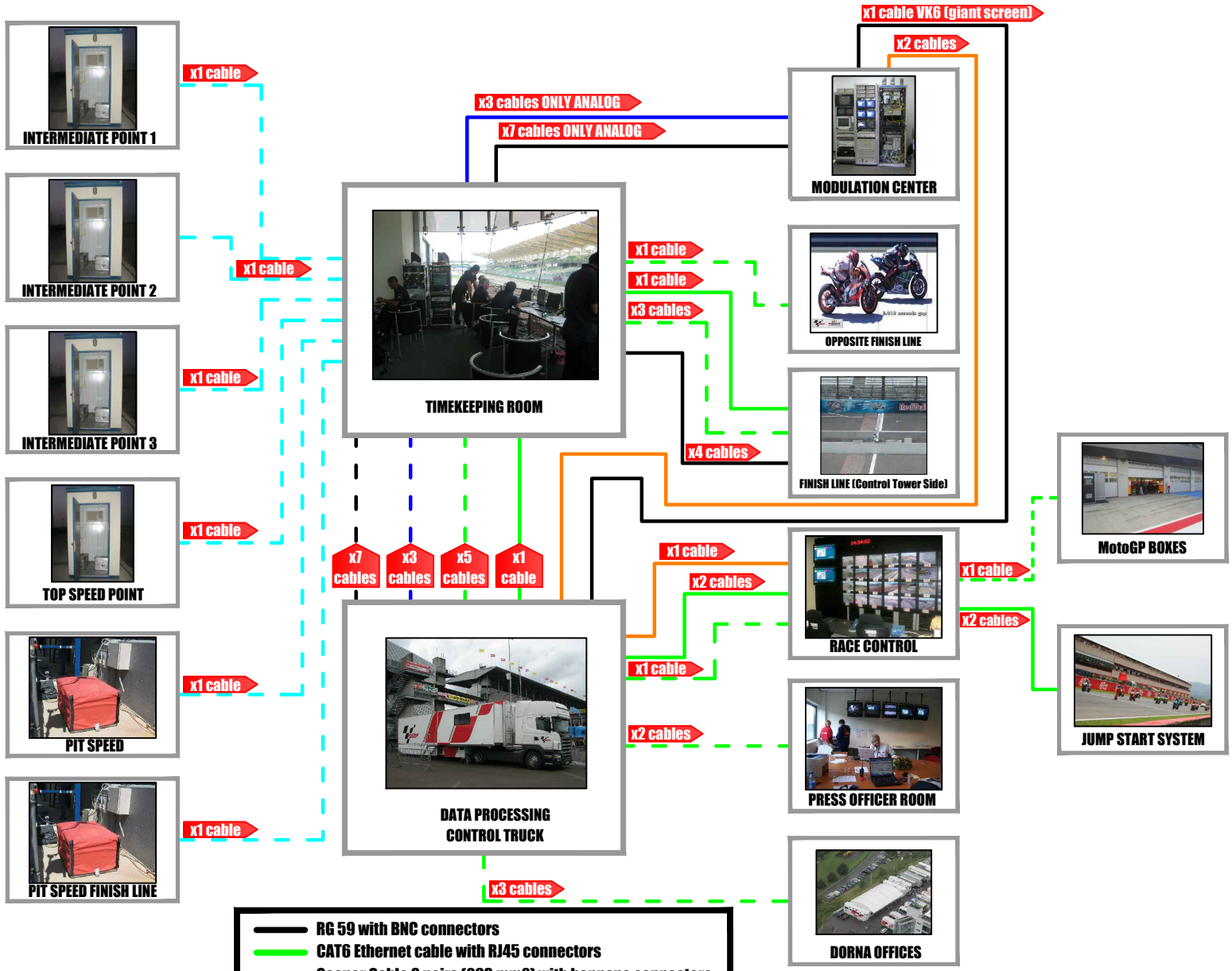
Operations Department

Promoters Manual	Date	JANUARY 2014	
Filename	IP INSTALLATION		
Description	DESCRIPTION		



* THIS DISTANCE MIGHT CHANGE DEPENDING ON THE PIT LANE LENGTH OF THE CIRCUIT

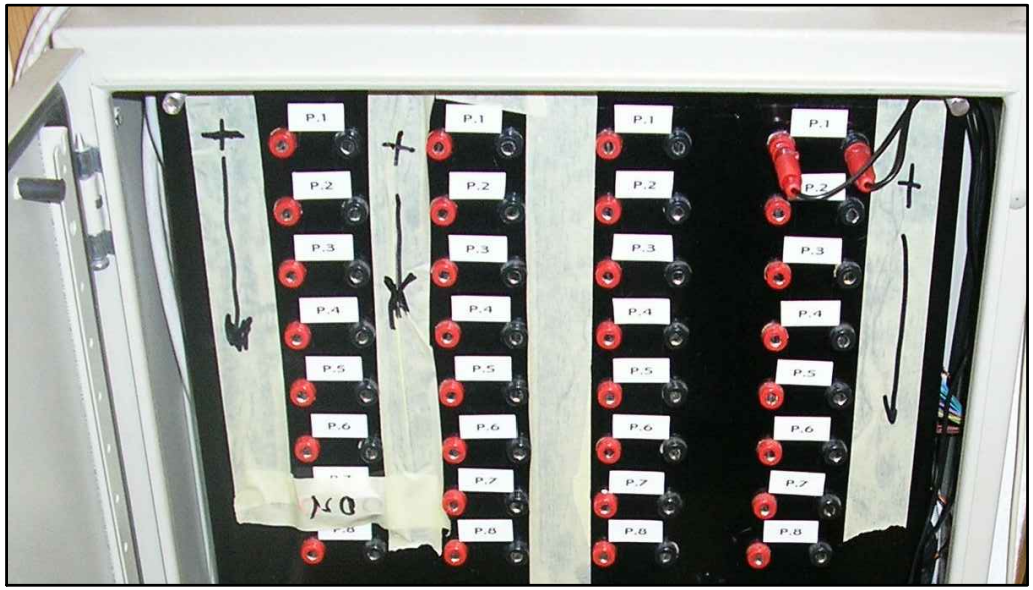
Promoters Manual	Date	JANUARY 2015	
Filename	RACE PROCEDURE		
Description	SPEED CONTROL LOOP		



Dorna Sports S.L.

Operations Department

Promoters Manual	Date	January 2017
Filename	RACE FACILITIES	
Description	CABLING SCHEMA EU	



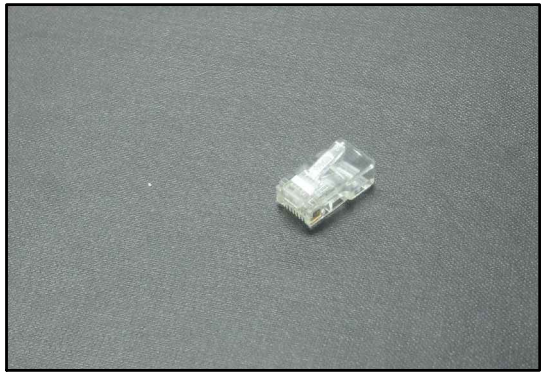
TIMING POINT PATCH PANEL

BANANA CONNECTORS MALE

RJ45 - FEMALE

BNC - FEMALE

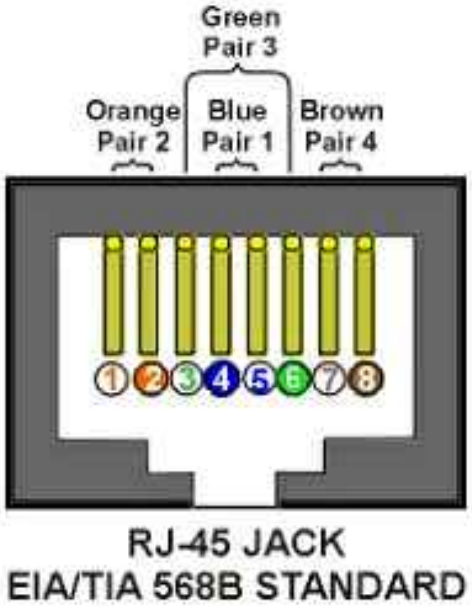
XLR-PIN_FEMALE

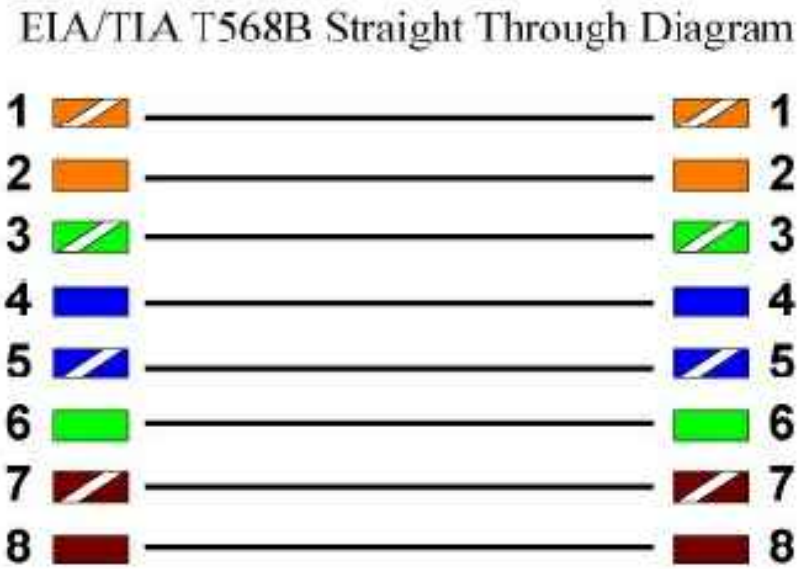


RJ45 - MALE

BNC - MALE

XLR-PIN_MALE


Green
Pair 3
Orange
Pair 2
Blue
Pair 1
Brown
Pair 4
1 2 3 4 5 6 7 8
RJ-45 JACK
EIA/TIA 568B STANDARD


EIA/TIA T568B Straight Through Diagram
1 1
2 2
3 3
4 4
5 5
6 6
7 7
8 8

BNC female Video RG 59

RJ 45 CAT 6

XLR-PIN Connector female AUDIO LINE

XLR-PIN Connector male AUDIO LINE

-TKR to DPC

1 & 2 - Dorna Network
3 - Intercom
4 - Back up_Intercom
5 - Track Point Connection 1
6 - Track Point Connection 2
7 - Back Up
13 - IPF MotoGP TV**
14 - Back Up**
15 - Timekeeping page 1**
16 - Timekeeping page 2**
17 - Timekeeping page 3**
18 - Timekeeping page 4**
22 - GIANT Screen**
41 - IPF Audio Signal**
42 - Media Information 1**
43 - Back up**

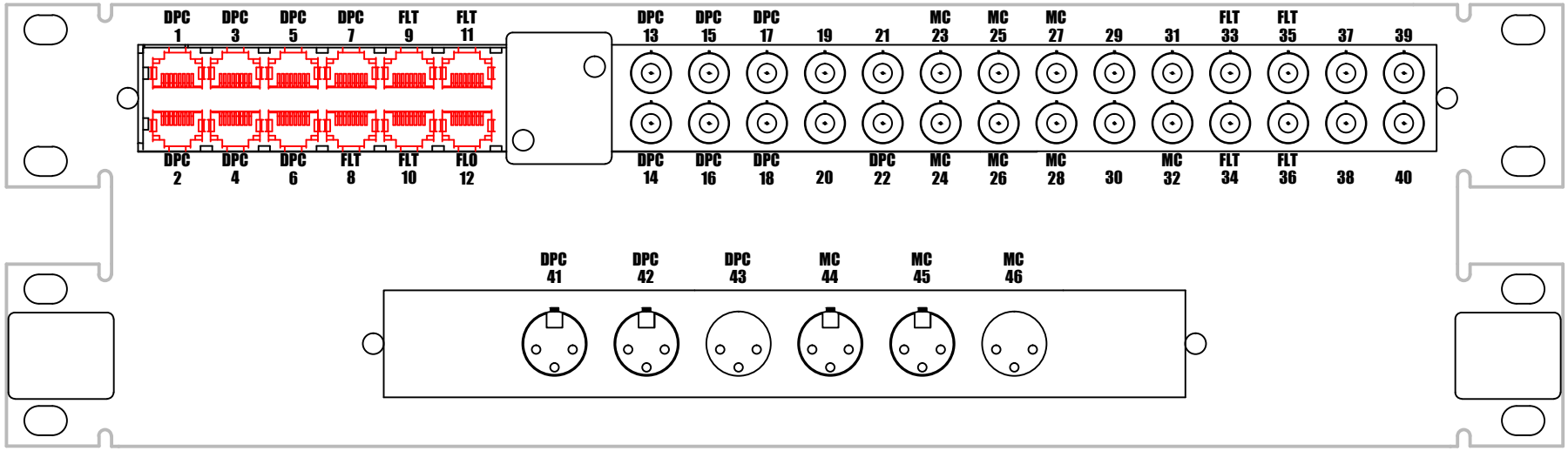
-TKR to MODULATION CENTER

23 - IPF MotoGP TV
24 - Back Up
25 - Timekeeping page 1
26 - Timekeeping page 2
27 - Timekeeping page 3
28 - Timekeeping page 4
32 - Back Up
44 - IPF Audio Signal
45 - Media Information 1
46 - Back up

-TKR to FINISH LINE

8 - Finish Line camera
9 - Speed control loops
10 - Photocell
11 - Meteo
12 - Opposite Finish Line
33 - Finish Line loop
34 - Pit Finish Line
35 - Back up 1
36 - Back up 2

** ONLY ANALOG



-**FLO**: Opposite Finish Line
-**FLT**: Finish Line Control Tower Side
-**DPC**: Data Processing Control
-**RC**: Race Control Room
-**MC**: Modulation Centre

Dorna Sports S.L.

Operations Department

Promoters Manual	Date	JANUARY 2016	
Filename	TIMEKEEPING ROOM EU		
Description	INFO DISTRIBUTION PANEL		

F connector female
Video RG 11

Outlet 220v

BNC female
Video RG 59

RJ 45
CAT 6

XLR-PIN Connector female
AUDIO LINE

XLR-PIN Connector male
AUDIO LINE

-DPC to TKR

1 & 2 - Dorna Network
3 - Intercom
4 - Back up_Intercom
5 - Track Point Connection 1
6 - Track Point Connection 2
7 - Back Up
19 - IPF MotoGP TV**
20 - Back Up**
21 - Timekeeping page 1**
22 - Timekeeping page 2**
23 - Timekeeping page 3**
24 - Timekeeping page 4**
25 - Timekeeping page 5**
26 - Media information 1**
27 - Media information 2**
28 - GIANT Screen**
34 - IPF Audio Signal**
35 - Media Information 1**
36 - Back up**

-DPC to RACE CONTROL

8 - Dorna Network
9 - Intercom
10 - Back Up
37 - HD Dorna Race Track System

-DPC to DORNA OFFICES

12 to 14 - Dorna Network

-DPC to PRESS OFFICER ROOM

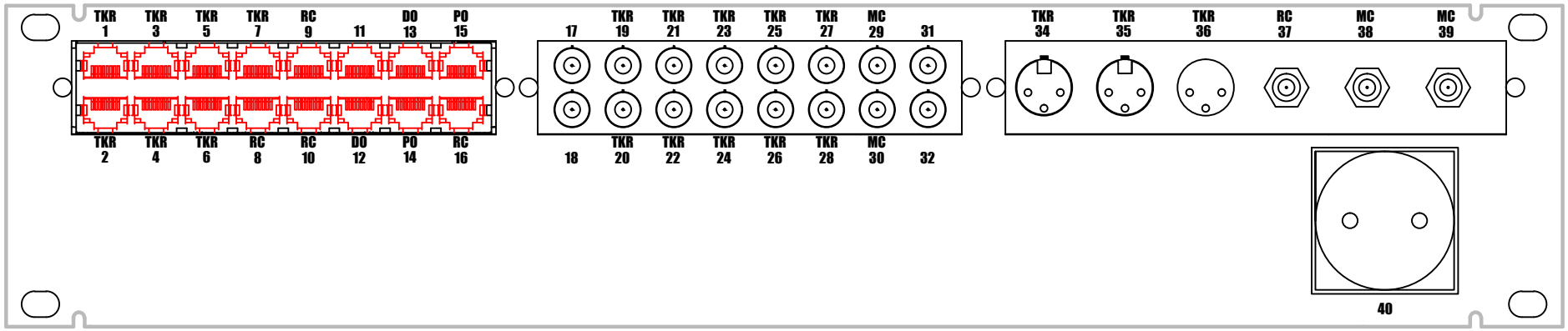
15 & 16 - Dorna Network

-DPC to MODULATION CENTER

29 - Back Up
30 - GIANT Screen VK6
38 - TDT MotoGP
39 - TDT MotoGP Back Up

40 - Power Outlet 220v UPS 32 A

** ONLY ANALOG



TKR: Time Keeping Room
RC: Race Control Room
MC: Modulation Centre
DO: Dorna Office
PO: Press Officer Room

Dorna Sports S.L.
Operations Department

Promoters Manual	Date	JANUARY 2016	
Filename	DATA PROCESSING ROOM EU		
Description	PATCH PANEL		

RG 11

BNC female
Video RG 59

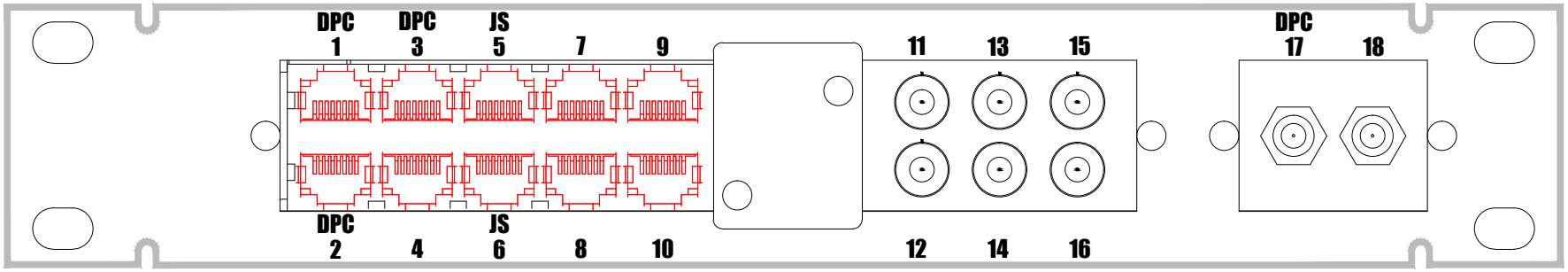
RJ 45 CAT 6

-RACE CONTROL to DPC :

1 - Dorna Network
2 - Intercom
3 - Back up
17 - HD Dorna Race Track System

-RACE CONTROL to JUMP START

5 - Jump Start cameras
6 - Back up

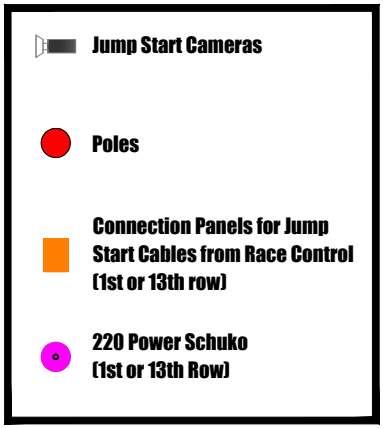


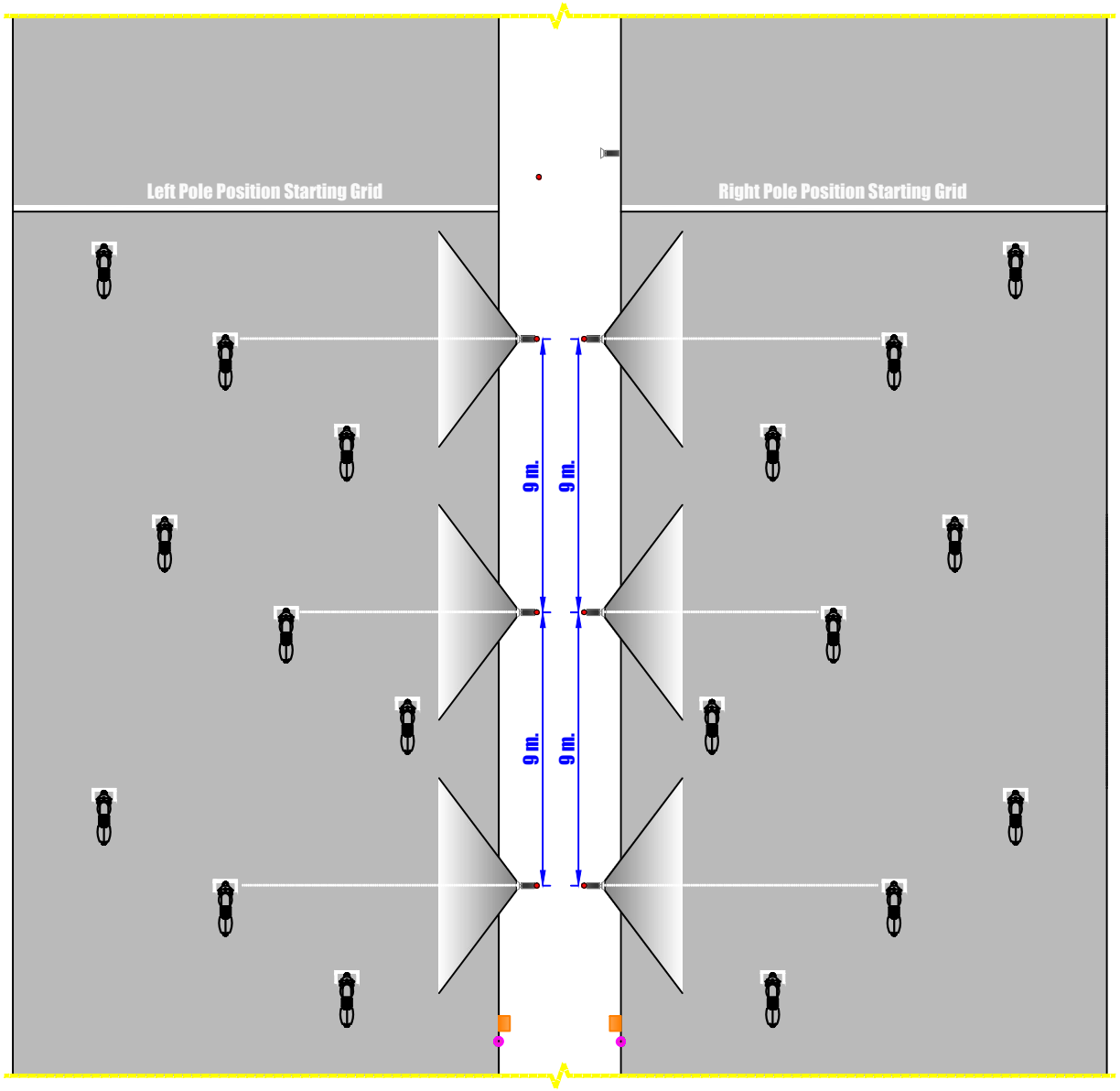
-**DPC**: Data Processing Control
-**JS**: Jump Start
-**RC**: Race Control
-**IP**: IP Director

Dorna Sports S.L.

Operations Department

Promoters Manual	Date	JANUARY 2016	
Filename	RACE CONTROL ROOM EU		
Description	PATCH PANEL		

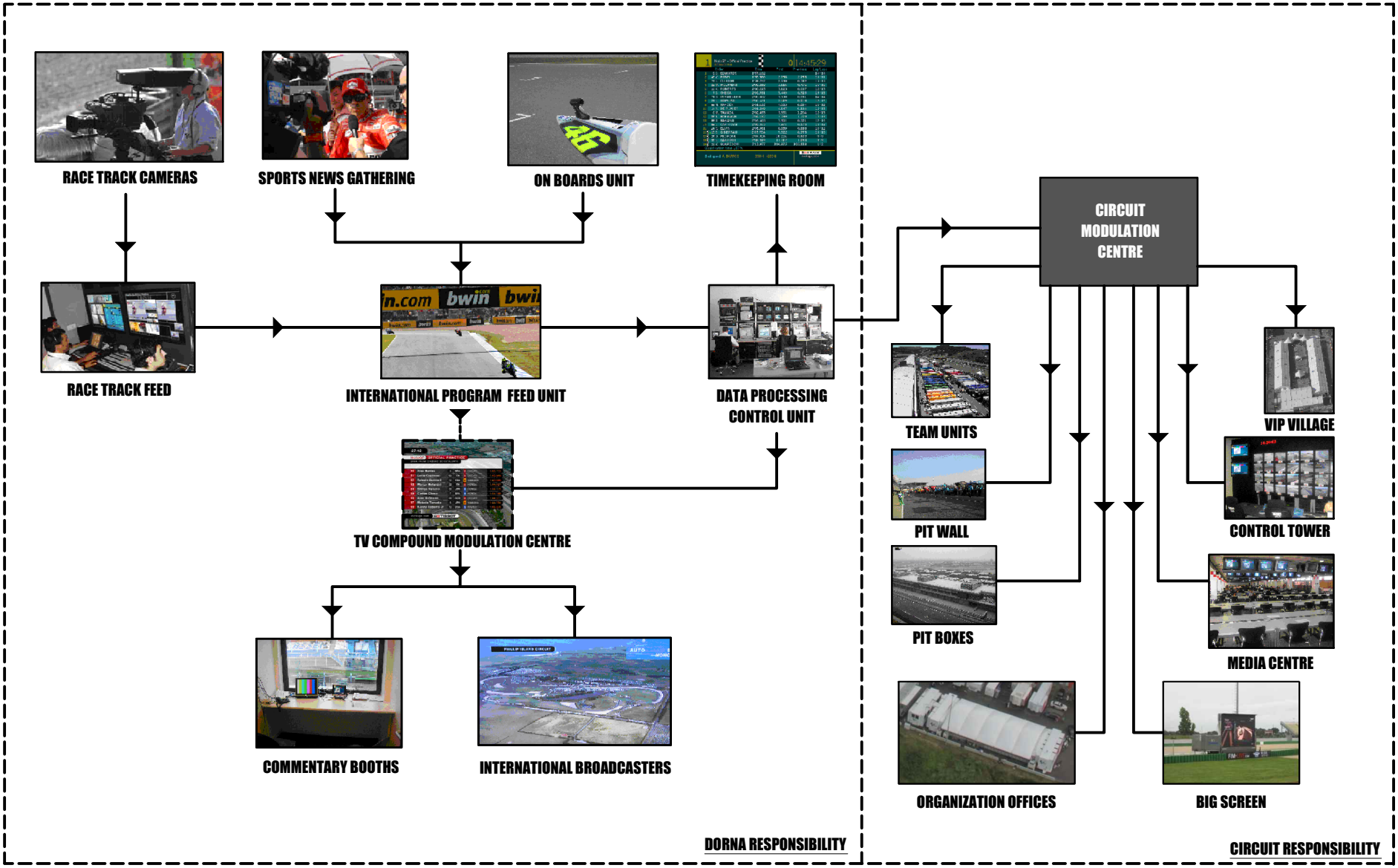




Dorna Sports S.L.

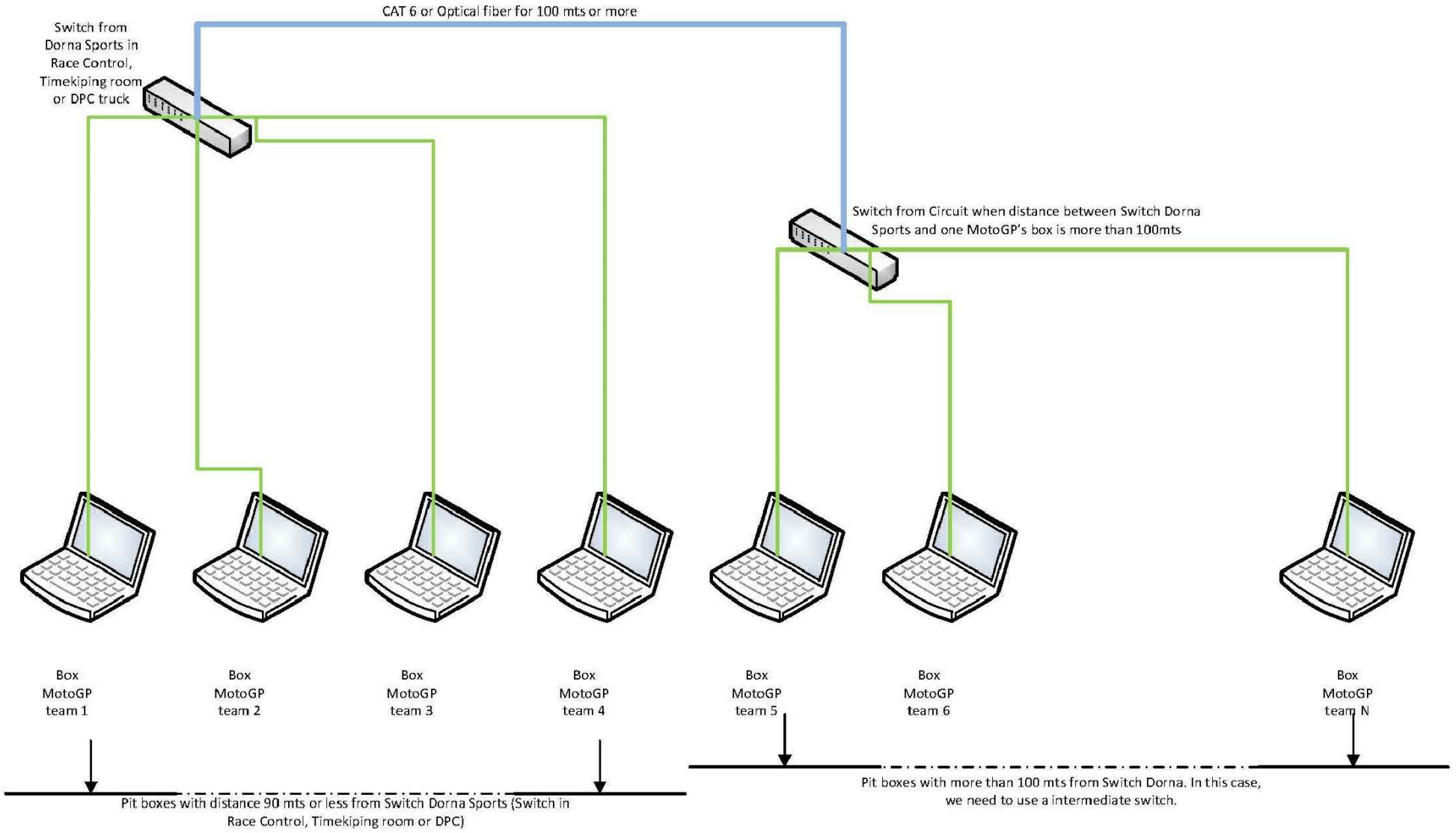
Operations Department

Promoters Manual	Date	JANUARY 2013	
Filename	RACE PROCEDURE		
Description	JUMP START SYSTEM		



Dorna Sports S.L.	
Operations Department	

Filename	INTERNATIONAL PROGRAM FEED
Description	RF INSTALLATION



Dorna Sports S.L.	
Operations Department	
Filename	VIRTUAL PITBOARD
Description	SCHEMA

Dorna Sports

Narcís Monturiol, 2 | 08960 Sant Just Desvern | Spain
Príncipe de Vergara, 183 | 28002 Madrid | Spain
Tel. +34 934 738 494 | events@dorna.com | Www.motogp.com