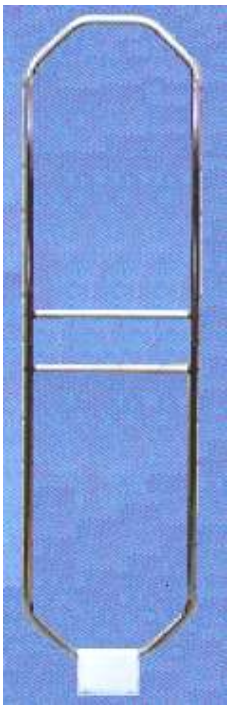

THE 2M OR QS 1500/1600

The 2M or QS1500/1600 transceiver is available in two frequencies, either 1.95Mhz (most popular) or 2.0Mhz. They have a distinctive, small pyramidal base housing the electronics PCB. (*some earlier versions had the electronics mounted in a separate enclosure.
A single antenna will easily protect 900mm, and in a clean environment will detect up to 1.1m with UFO sized hard tags, a pair of antennas will protect a 2m doorway with relative ease. Being a low frequency system, label detection is not possible.
*Earlier models have simpler electronics, with no AC multiplexing, these are intended for single doorway installations. For multi aisle installations later models must be used.

QS 1501/1502.

This system has traditional synchronisation, via the supply voltage cross-over point. It also has an unsynchronous mode to allow the transmit pulse to be offset from the mains supply, useful when trying to avoid mains synchronous interference or other systems operating with shifted supply phase.
QS 1501, (or solo) is a single antenna transceiver, with integral electronics. This is capable of detecting up to 1m each side of the antenna.
QS1502, (or midi) is the above system, with integral electronics, but the receiver input is from a separate antenna, making the system into a two antenna system, like traditional systems. This is capable of detecting at an aisle width of about 1.6m.

QS1600, (or maxi) is a two antenna system, with remote electronics, where both antennas are transceivers. This is capable of detecting at about 1.8m

Synchronisation of more than one system.
As with most transceiver systems, this is achieved by a.c. multiplexing, when using sync mode. The transceivers have a 1.2v a.c. feed, so that the zero crossing point of the supply voltage can be used to trigger the transmit pulse burst. Using this method we always know when the transmit pulse is coming, and can make sure that the next transceiver starts its pulse when the first has stopped transmitting. The second and subsequent transmitters should be set to “fire” in a different time-slot than the first. This is achieved by selecting one of the 4 standard sync positions for each system, using dil switch positions 1 to 4.
Be sure to check that all systems are on the same mains phase and that the supply leads from the power supplies are the same phase.
In very large multi-system the unsyncronous mode may be used and a sync. cable connected between systems.

ADJUSTMENTS.

This system is not quite as a “plug & play” as other transceivers, but can still be set-up without an oscilloscope. Connect the combined a.c./d.c. supply to the system, using the same criteria as for any RF system. Avoiding coiling of cables and vertical cable runs.

Connection.
Be sure to connect the power supply the correct way round. There are 3 connections, gnd, 1.2v a.c. and +15v d.c. and three possible combinations of cable colours (to be safe, check with a meter)

PSU’s	Pin 1 gnd	Pin 2 a.c.	Pin3 +15v
Early	white	yellow	brown
Heavy duty	black/ brown	white	red
Late	green	black	red

Sync.
Then set the synchronisation as required, if there is only one system, you can use unsynchronous mode and the system will work a little faster. If there are more systems use sync 1, through to sync 4 for each corresponding antenna. Sync. modes are set by selecting switches 1 to 4 on the dil switch as shown in the table below.

Dil switch	4	3	2	1
unsync	off	off	off	off
Sync 1	off	off	off	on
Sync 2	off	off	on	off
Sync 3	off	on	off	off
Sync 4	on	off	off	off

Antenna mode.
Next select mode of antenna operation, there are several possibilities known as Balanced + Unbalanced, Balanced or Fully balanced , just to confuse us!
That nonsense equates into the following; the first mode, the transmit and receive top and bottom loops work independently, giving the best detection and a different alarm tone for each loop.

There are more pages to this document