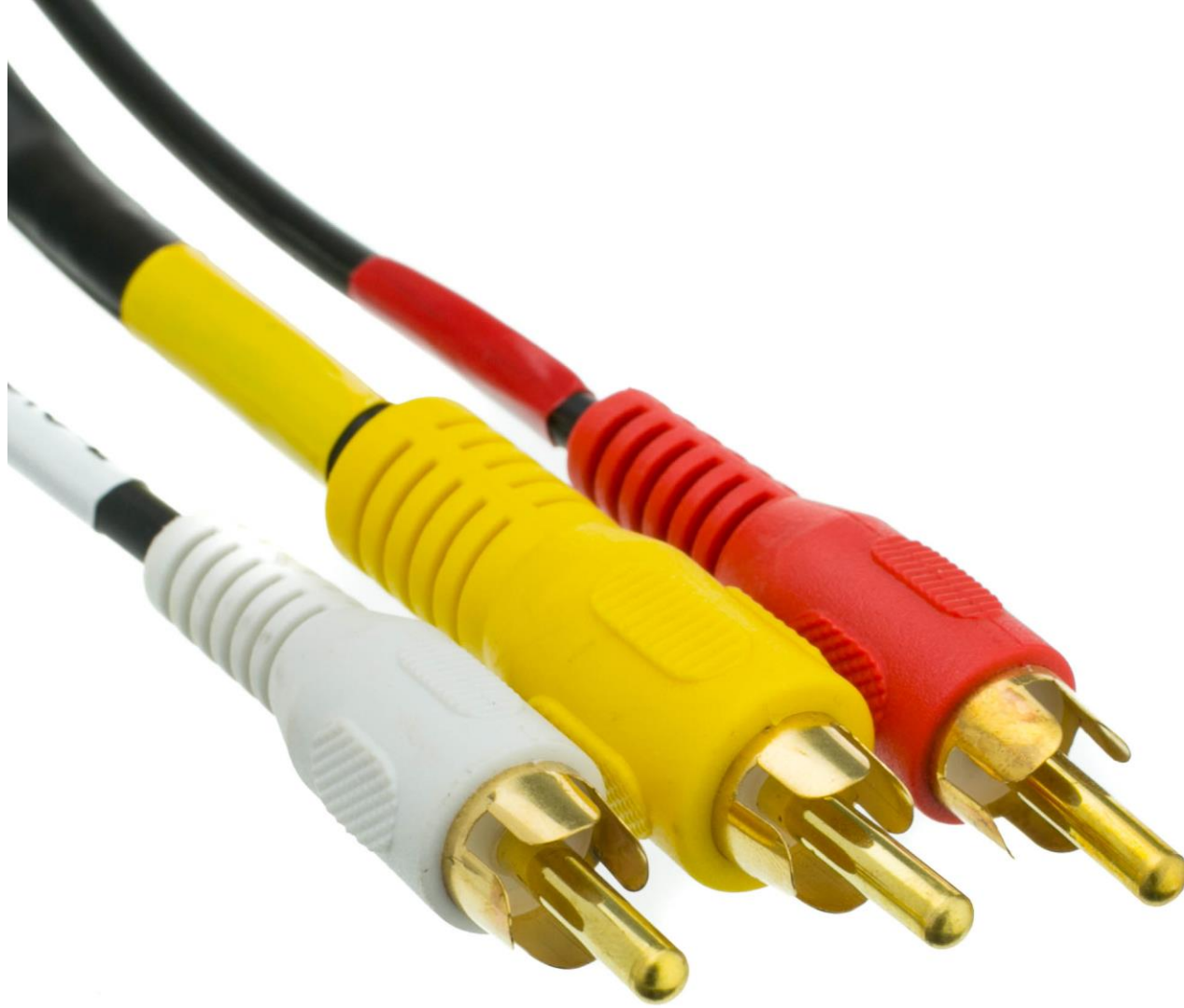


# Fax Machines

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## and RCA Connectors

**And “what does this have to do with Traffic Signals?”**



What are these connectors?





A question for the  
millennials in the room  
“What is this”?

In the 1970's, there was no common protocol for fax machines. If you had a fax machine manufactured by IBM, you could only send faxes to people with IBM faxes.

This was OK for sending information to another branch of the same company, but not so great for ordering equipment from a supplier – unless they had the same brand as you.

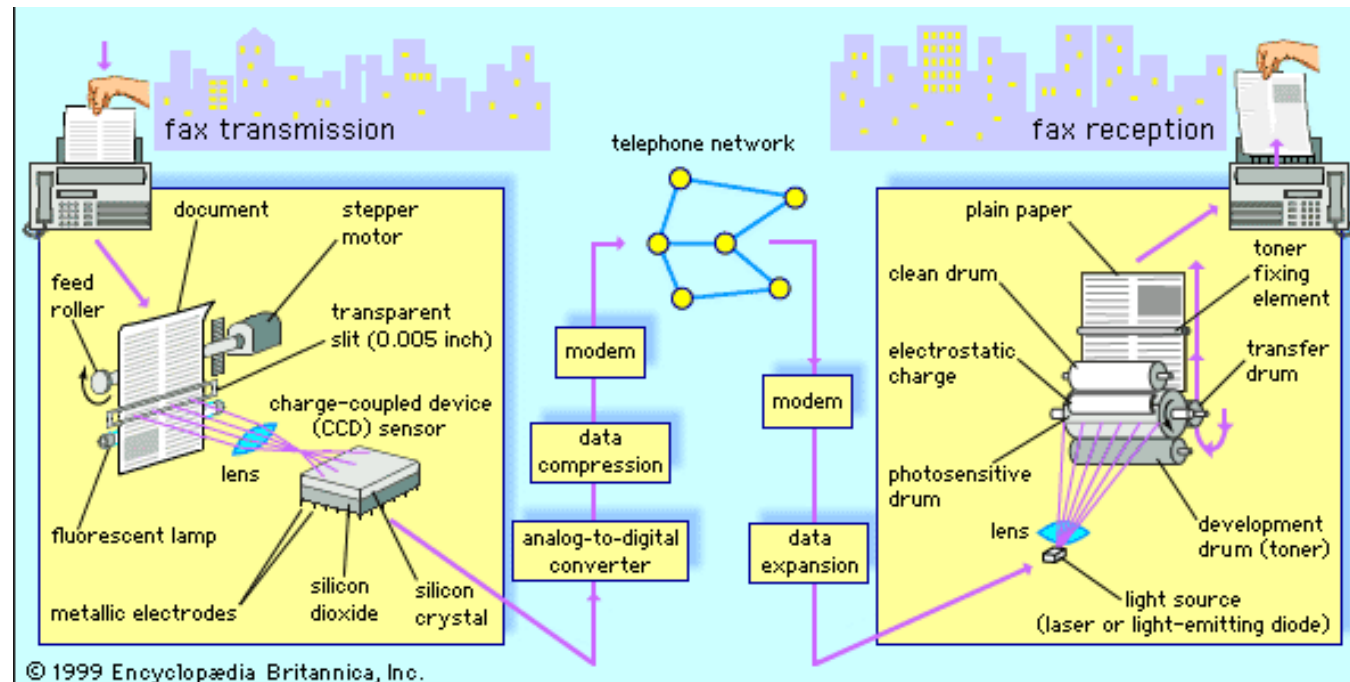
In the 1980's, NEC (Nippon Electric Company) developed a fax protocol that was so good, it solved most of the issues that the other fax manufactures had.

It scanned quicker, could work on nosier phone lines, and had advanced error correction abilities.

They were so happy with their product that they set up the "Group 3" facsmilie Standards group, and shared the technology with their competitors for free.

This allowed other manufacturers to make machines that could talk to each other.

Pretty much every office from 1985 until 2005 had a fax machine because of this.



What does any of this have to do with Traffic Signals?

# Standards!

**NEW ZEALAND STANDARDS**

NZS 3109	Concrete construction
NZS 3114	Specification for concrete surface finishes
NZS 3404	Steel structures standard (Parts 1 & 2)
NZS 3910	Conditions of contract for building and civ

**JOINT AUSTRALIAN/NEW ZEALAND STANDARDS**

AS/NZS 1163	Cold-formed structural steel hollow section
AS/NZS 1170	Structural design actions Part 0:2002 General principles Part 1:2002 Permanent, imposed
AS/NZS 1554	Structural steel welding Part 1:2014 Welding of steel stru
AS/NZS 2276	Cables for traffic signal installations Part.1 Multicore power cables Part 2 Feeder cables for vehicle de Part 3 Loop cable for vehicle dete
AS/NZS 2312	Part.1 Guide to the protection of structural atmospheric corrosion <u>by the use of prote</u>
AS/NZS 2980	Qualification of welders for fusion welding
AS/NZS 3000	Electrical wiring regulations
AS/NZS 4058	Precast concrete pipes
AS/NZS 4676	Structural design requirements for utility s
AS/NZS 4677	Steel utility services poles
AS/NZS 4680	<u>Hot-dip</u> galvanized (zinc) coatings on fabri
AS/NZS 5131	Structural steelwork - Fabrication and erec

**INTERNATIONAL STANDARDS**

IEC 60947	Low-voltage switchgear and control gear Part 7-1 Ancillary equipment - Terminal blocks fo
IEC 60998	Connecting devices for low-voltage circuits purposes Part 1 <u>General</u> requirements Part 2-1 Particular requirements for connecting d with screw-type clamping units

**AUSTRALIAN STANDARDS**

AS 2144	Traffic signal lanterns
AS 2339	Traffic signal posts and attachments
AS 2353	Pedestrian push button assemblies
AS 2578	Traffic signal controllers
AS2700	Colour Standards for General Purposes
AS 2703	Vehicle loop detector sensors
AS 3996	Access covers and grates
AS5715	Uninterruptible power systems (UPS) for roadside devices

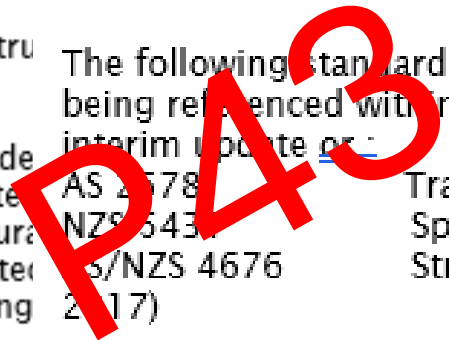
**WITHDRAWN STANDARDS**

The following standards have been withdrawn but not yet replaced, as such they are still being referenced within this standard. Where new and old standard conflict refer to the interim update or:

AS 2578	Traffic signal controllers (withdrawn 2019)
NZS 5431	Specification for traffic signals
AS/NZS 4676	Structural design requirements for utility services poles (withdrawn 2017)

**OTHER PUBLICATIONS**

NZCEP 34	New Zealand code of practice for electrical safe distances
RTS14	Guidelines for facilities for blind and visually impaired pedestrians, third edition - May 2015, Roads and Traffic Series
<u>CoPTTM</u>	Code of practice for temporary traffic management (NZTA Publication)
<u>Austrroads</u>	Guide to traffic management, Part 10, Traffic Control and communication devices
RMS TSC/4	Compliant controller specification
NZTA	Pedestrian planning and design guide
MRTS252	Next Generation Traffic Signal Controllers - Transport and Main Roads - Queensland
TCS 016	The Supply and Installation of Traffic Signal Controllers - Vic roads





Of particular interest are the following signals-related standards –

AS 2144 – Traffic signal lanterns,

AS 2339 - Traffic Signal Posts & Attachments

AS 2353 - Pedestrian Push Button Assemblies

AS 2578 - Traffic Signal Controllers

AS 2703 - Vehicle Loop Detector Sensors

AS 5715 - UPS's for Roadside Devices

# AS 2144 – Traffic Signal Lanterns

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# What is the take-away?

Standards give us two advantages.

Like the RCA connector, they make life simpler. We know the devices or systems can talk to each other, so we don't have to worry about things working.

Like the fax machine, standards allow equipment from different manufacturers to work together. This gives you the ability to choose a controller from one supplier, and a lantern from another, totally safe in the knowledge that they will both work together regardless of the manufacturer.

Why you choose to purchase standard equipment from different suppliers is your business, knowing that they will work together without any issues is why we have standards.